

## MERCHANT &amp; GOULD P.C.

## United States Patent Application

## DECLARATION

As a below named inventor, we hereby declare that: our residences, post office addresses and citizenships are as stated below next to our names; that

We verily believe we are the original, first and joint inventors of the subject matter which is claimed and for which a patent is sought on the invention entitled AUTOMATIC MODEL REGULATION IN A DISC DRIVE SERVO SYSTEM USING MODEL REFERENCE INVERSE, the specification of which is attached hereto.

We hereby state that we have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

We acknowledge the duty to disclose information which is material to the patentability of this application in accordance with Title 37, Code of Federal Regulations, § 1.56 (described hereinbelow).

We hereby claim foreign priority benefits under Title 35, United States Code, § 119/365 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on the basis of which priority is claimed:

- ☒ no such applications have been filed.  
☐ such applications have been filed as follows:

FOREIGN APPLICATION(S), IF ANY, CLAIMING PRIORITY UNDER 35 USC § 119			
COUNTRY	APPLICATION NUMBER	DATE OF FILING (day, month, year)	DATE OF ISSUE (day, month, year)
ALL FOREIGN APPLICATION(S), IF ANY, FILED BEFORE THE PRIORITY APPLICATION(S)			
COUNTRY	APPLICATION NUMBER	DATE OF FILING (day, month, year)	DATE OF ISSUE (day, month, year)

We hereby claim the benefit under Title 35, United States Code, § 120/365 of any United States and PCT international application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, § 112, we acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, § 1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application.

U.S. APPLICATION NUMBER	DATE OF FILING (day, month, year)	STATUS (patented, pending, abandoned)

We hereby claim the benefit under Title 35, United States Code § 119(e) of any United States provisional application(s) listed below:

U.S. PROVISIONAL APPLICATION NUMBER	DATE OF FILING (Day, Month, Year)
Unknown	October 23, 2001

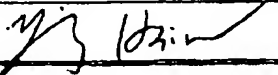

We hereby declare that all statements made herein of our own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

2	Full Name Of Inventor	Family Name Hsin	First Given Name Yi-Ping	Second Given Name
0	Residence & Citizenship	City Burnsville	State or Foreign Country Minnesota	Country of Citizenship Taiwan
1	Post Office Address	Post Office Address 1309 Earle Way	City Burnsville	State & Zip Code/Country Minnesota 55306/USA
Signature of Inventor 201:			Date: Jan 4, 2002	
2	Full Name Of Inventor	Family Name Mittal	First Given Name Samir	Second Given Name
0	Residence & Citizenship	City Longmont	State or Foreign Country Colorado	Country of Citizenship India
2	Post Office Address	Post Office Address 700 Ken Pratt Boulevard, Suite 204-317	City Longmont	State & Zip Code/Country Colorado 80503/USA
Signature of Inventor 202:			Date:	
2	Full Name Of Inventor	Family Name Morris	First Given Name John	Second Given Name Christopher
0	Residence & Citizenship	City Minneapolis	State or Foreign Country Minnesota	Country of Citizenship USA
3	Post Office Address	Post Office Address 5045 Oliver Avenue South	City Minneapolis	State & Zip Code/Country Minnesota 55419/USA
Signature of Inventor 203:			Date:	

#### § 1.56 Duty to disclose information material to patentability.

(a) A patent by its very nature is affected with a public interest. The public interest is best served, and the most effective patent examination occurs when, at the time an application is being examined, the Office is aware of and evaluates the teachings of all information material to patentability. Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section. The duty to disclose information exists with respect to each pending claim until the claim is canceled or withdrawn from consideration, or the application becomes abandoned. Information material to the patentability of a claim that is canceled or withdrawn from consideration need not be submitted if the information is not material to the patentability of any claim remaining under consideration in the application. There is no duty to submit information which is not material to the patentability of any existing claim. The duty to disclose all information known to be material to patentability is deemed to be satisfied if all information known to be material to patentability of any claim issued in a patent was cited by the Office or submitted to the Office in the manner prescribed by §§ 1.97(b)-(d) and 1.98. However, no patent will be granted on an application in connection with which fraud on the Office was practiced or attempted or the duty of disclosure was violated through bad faith or intentional misconduct. The Office encourages applicants to carefully examine:

We hereby declare that all statements made herein of our own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

2	Full Name Of Inventor	Family Name	First Given Name	Second Given Name
		Hsin	Yi-Ping	
0	Residence & Citizenship	City	State or Foreign Country	Country of Citizenship
		Burnsville	Minnesota	Taiwan
1	Post Office Address	Post Office Address	City	State & Zip Code/Country
		1309 Erie Way	Burnsville	Minnesota 55306/USA
Signature of Inventor 201: 				Date: Jan 4, 2002
2	Full Name Of Inventor	Family Name	First Given Name	Second Given Name
		Mital	Samir	
0	Residence & Citizenship	City	State or Foreign Country	Country of Citizenship
		Longmont	Colorado	India
2	Post Office Address	Post Office Address	City	State & Zip Code/Country
		700 Ken Pratt Boulevard, Suite 204-317	Longmont	Colorado 80503/USA
Signature of Inventor 202:				Date:
2	Full Name Of Inventor	Family Name	First Given Name	Second Given Name
		Morris	John	Christopher
0	Residence & Citizenship	City	State or Foreign Country	Country of Citizenship
		Minneapolis	Minnesota	USA
3	Post Office Address	Post Office Address	City	State & Zip Code/Country
		5045 Oliver Avenue South	Minneapolis	Minnesota 55419/USA
Signature of Inventor 203: 				Date: 1/9/02

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We hereby declare that all statements made herein of our own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

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0	Residence & Citizenship	City Burnsville	State or Foreign Country Minnesota	Country of Citizenship Taiwan
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0	Residence & Citizenship	City Longmont	State or Foreign Country Colorado	Country of Citizenship India
2	Post Office Address	Post Office Address 700 Ken Pratt Boulevard, Suite 204-317	City Longmont	State & Zip Code/Country Colorado 80505/USA 80501 <i>HA</i>
Signature of Inventor 202: <i>[Signature]</i>			Date: 01.04.2002	
2	Full Name Of Inventor	Family Name Morris	First Given Name John	Second Given Name Christopher
0	Residence & Citizenship	City Minneapolis	State or Foreign Country Minnesota	Country of Citizenship USA
3	Post Office Address	Post Office Address 5045 Oliver Avenue South	City Minneapolis	State & Zip Code/Country Minnesota 55419/USA
Signature of Inventor 203:			Date:	

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(a) A patent by its very nature is affected with a public interest. The public interest is best served, and the most effective patent examination occurs when, at the time an application is being examined, the Office is aware of and evaluates the teachings of all information material to patentability. Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section. The duty to disclose information exists with respect to each pending claim until the claim is canceled or withdrawn from consideration, or the application becomes abandoned. Information material to the patentability of a claim that is canceled or withdrawn from consideration need not be submitted if the information is not material to the patentability of any claim remaining under consideration in the application. There is no duty to submit information which is not material to the patentability of any existing claim. The duty to disclose all information known to be material to patentability is deemed to be satisfied if all information known to be material to patentability of any claim issued in a patent was cited by the Office or submitted to the Office in the manner prescribed by §§ 1.97(b)-(d) and 1.98. However, no patent will be granted on an application in connection with which fraud on the Office was practiced or attempted or the duty of disclosure was violated through bad faith or intentional misconduct. The Office encourages applicants to carefully examine:

- (1) prior art cited in search reports of a foreign patent office in a counterpart application, and
- (2) the closest information over which individuals associated with the filing or prosecution of a patent application believe any pending claim patentably defines, to make sure that any material information contained therein is disclosed to the Office.

(b) Under this section, information is material to patentability when it is not cumulative to information already of record or being made of record in the application, and

- (1) It establishes, by itself or in combination with other information, a prima facie case of unpatentability of a claim; or
- (2) It refutes, or is inconsistent with, a position the applicant takes in:
  - (i) Opposing an argument of unpatentability relied on by the Office, or
  - (ii) Asserting an argument of patentability.

A prima facie case of unpatentability is established when the information compels a conclusion that a claim is unpatentable under the preponderance of evidence, burden-of-proof standard, giving each term in the claim its broadest reasonable construction consistent with the specification, and before any consideration is given to evidence which may be submitted in an attempt to establish a contrary conclusion of patentability.

(c) Individuals associated with the filing or prosecution of a patent application within the meaning of this section are:

- (1) Each inventor named in the application;
- (2) Each attorney or agent who prepares or prosecutes the application; and
- (3) Every other person who is substantively involved in the preparation or prosecution of the application and who is associated with the inventor, with the assignee or with anyone to whom there is an obligation to assign the application.

(d) Individuals other than the attorney, agent or inventor may comply with this section by disclosing information to the attorney, agent, or inventor.

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s):	Yi-Ping Hsin, Samir Mittal and John Christopher Morris		
Serial No.:	Unknown	Examiner:	
Filed:	Herewith	Group Art Unit:	Unknown
Title:	AUTOMATIC MODEL REGULATION IN A DISC DRIVE SERVO SYSTEM USING MODEL REFERENCE INVERSE		
Docket:	STL10533/40176.72USU1		

**POWER OF ATTORNEY BY ASSIGNEE OF ENTIRE INTEREST  
(REVOCATION OF PRIOR POWERS)**

As assignee of record of the entire interest of the above identified application, all powers of attorney previously given are hereby revoked and the following practitioners/patent agents are hereby appointed to prosecute and transact all business in the Patent and Trademark Office connected therewith.

Shawn B. Dempster, Registration No. 34,321	Edward P. Heller, III, Registration No. 29,075
Jonathan E. Olson, Registration No. 41,231	Raghunath S. Minisandram, Registration No. 38,683
Derek J. Berger, Registration No. 45,401	Paul T. Dietz, Registration No. 38,858
Kirk A. Cesari, Registration No. 47,479	Carol I. Bordas, Registration No. 37,284
Mitchell K. McCarthy, Registration No. 38,794	Jennifer M. Buenzow Registration No. P-50,124

And members of the firm of Merchant & Gould P.C.

Albrecht, John W.	Reg. No. 40,481	Hamer, Samuel A.	Reg. No. 46,754
Ali, M. Jeffer	Reg. No. 46,359	Hamre, Curtis B.	Reg. No. 29,165
Altera, Allan G.	Reg. No. 40,274	Harrison, Kevin C.	Reg. No. 46,759
Anderson, Gregg I.	Reg. No. 28,828	Hertzberg, Brett A.	Reg. No. 42,660
Batzli, Brian H.	Reg. No. 32,960	Hillson, Randall A.	Reg. No. 31,838
Beard, John L.	Reg. No. 27,612	Holzer, Jr., Richard J.	Reg. No. 42,668
Berns, John M.	Reg. No. 43,496	Hope, Leonard J.	Reg. No. 44,774
Branch, John W.	Reg. No. 41,633	Jardine, John S.	Reg. No. P-48,835
Brown, Jeffrey C.	Reg. No. 41,643	Johns, Nicholas P.	Reg. No. 48,995
Bruess, Steven C.	Reg. No. 34,130	Johnston, Scott W.	Reg. No. 39,721
Byrne, Linda M.	Reg. No. 32,404	Kadievtch, Natalie D.	Reg. No. 34,196
Campbell, Keith	Reg. No. 46,597	Kaseburg, Frederick A.	Reg. No. 47,695
Carlson, Alan G.	Reg. No. 25,959	Kettelberger, Denise	Reg. No. 33,924
Caspers, Philip P.	Reg. No. 33,227	Keys, Jeramie J.	Reg. No. 42,724
Clifford, John A.	Reg. No. 30,247	Knearl, Homer L.	Reg. No. 21,197
Cook, Jeffrey	Reg. No. 48,649	Kowalchyk, Alan W.	Reg. No. 31,535
Daignault, Ronald A.	Reg. No. 25,968	Kowalchyk, Katherine M.	Reg. No. 36,848
Daley, Dennis R.	Reg. No. 34,994	Lacy, Paul E.	Reg. No. 38,946
Daulton, Julie R.	Reg. No. 36,414	Larson, James A.	Reg. No. 40,443
DeVries Smith, Katherine M.	Reg. No. 42,157	Leonard, Christopher J.	Reg. No. 41,940
DiPietro, Mark J.	Reg. No. 28,707	Liepa, Mara E.	Reg. No. 40,066
Doscotch, Matthew A.	Reg. No. P-48,957	Lindquist, Timothy A.	Reg. No. 40,701
Edell, Robert T.	Reg. No. 20,187	Lown, Jean A.	Reg. No. 48,428
Epp Ryan, Sandra	Reg. No. 39,667	Mayfield, Denise L.	Reg. No. 33,732
Glance, Robert J.	Reg. No. 40,620	McDonald, Daniel W.	Reg. No. 32,044
Goff, Jared S.	Reg. No. 44,716	McIntyre, Jr., William F.	Reg. No. 44,921
Gogglin, Matthew J.	Reg. No. 44,125	Mitchem, M. Todd	Reg. No. 40,731
Golla, Charles E.	Reg. No. 26,896	Mueller, Douglas P.	Reg. No. 30,300
Gorman, Alan G.	Reg. No. 38,472	Nelson, Anna M.	Reg. No. 48,935
Gould, John D.	Reg. No. 18,223	Paley, Kenneth B.	Reg. No. 38,989
Gregson, Richard	Reg. No. 41,804	Parsons, Nancy J.	Reg. No. 40,364
Gresens, John J.	Reg. No. 33,112	Pauly, Daniel M.	Reg. No. 40,123

Phillips, John B.	Reg. No. 37,206	Tellekson, David K.	Reg. No. 32,314
Pino, Mark J.	Reg. No. 43,858	Trembath, Jon R.	Reg. No. 38,344
Prendergast, Paul	Reg. No. 46,068	Tunheim, Marcia A.	Reg. No. 42,189
Pytel, Melissa J.	Reg. No. 41,512	Underhill, Albert L.	Reg. No. 27,403
Qualey, Terry	Reg. No. 25,148	Vandenburgh, J. Derek	Reg. No. 32,179
Reich, John C.	Reg. No. 37,703	Wahl, John R.	Reg. No. 33,044
Reiland, Earl D.	Reg. No. 25,767	Weaver, Paul L.	Reg. No. 48,640
Samuels, Lisa A.	Reg. No. 43,080	Welter, Paul A.	Reg. No. 20,890
Schmaltz, David G.	Reg. No. 39,828	Whipps, Brian	Reg. No. 43,261
Schuman, Mark D.	Reg. No. 31,197	Whitaker, John E.	Reg. No. 42,222
Schumann, Michael D.	Reg. No. 30,422	Wier, David D.	Reg. No. P-48,229
Scull, Timothy B.	Reg. No. 42,137	Williams, Douglas J.	Reg. No. 27,054
Sebald, Gregory A.	Reg. No. 33,280	Withers, James D.	Reg. No. 40,376
Skoog, Mark T.	Reg. No. 40,178	Witt, Jonelle	Reg. No. 41,980
Spellman, Steven J.	Reg. No. 45,124	Wong, Thomas S.	Reg. No. 48,577
Stewart, Alan R.	Reg. No. 47,974	Wu, Tong	Reg. No. 43,361
Stoll-DeBell, Kirstin L.	Reg. No. 43,164	Young, Thomas	Reg. No. 25,796
Sullivan, Timothy	Reg. No. 47,981	Zeuli, Anthony R.	Reg. No. 45,255
Sumner, John P.	Reg. No. 29,114		
Swenson, Erik G.	Reg. No. 45,147		

#### CHANGE OF ATTORNEY'S/AGENT'S ADDRESS IN APPLICATION

Merchant & Gould P.C.  
P.O. Box 2903  
Minneapolis, MN 55402-0903

#### STATEMENT UNDER 37 CFR 3.73(b)

Seagate Technology LLC states that it is the Assignee of Entire Interest in the patent application/patent identified above by virtue of an Assignment from the inventor(s) of the patent application/patent identified above. A copy of the Assignment is attached and/or was recorded in the Patent and Trademark Office at Reel , Frame .  
The undersigned (whose title is supplied below) is empowered to sign this statement on behalf of the Assignee.

Respectfully submitted,

SEAGATE TECHNOLOGY LLC  
(Assignee of Entire Interest)

January 9, 2002  
Date

Derek J. Berger  
Derek J. Berger, Registration No. 45,401  
SEAGATE TECHNOLOGY LLC  
Intellectual Property Dept. - CO2LGL  
389 Disc Drive  
Longmont, Colorado 80503  
Telephone: 720-684-2265  
Fax: 720-684-2588

ASSIGNMENT

WHEREAS, we, Yi-Ping Hsin, residing at 1309 Earle Way, Burnsville, Minnesota 55306; Samir Mittal, residing at 700 Ken Pratt Boulevard., Suite 204-317, Longmont, Colorado 80503; and John Christopher Morris, residing at 5045 Oliver Avenue South, Minneapolis, Minnesota 55419, are the inventors of an invention entitled AUTOMATIC MODEL REGULATION IN A DISC DRIVE SERVO SYSTEM USING MODEL REFERENCE INVERSE that is the subject matter of

a provisional application for Letters Patent which is identifiable in the United States Patent and Trademark Office by Attorney Docket Number STL10533.01, entitled "Automatic Model Regulation In a Disc-Drive Servo System Using Model Reference Inverse," filed October 23, 2001;

an application for Letters Patent, the application having been executed on even date herewith, and

WHEREAS, Seagate Technology LLC, a limited liability company organized and existing under and by virtue of the laws of the State of Delaware and the United States of America, and having offices at 920 Disc Drive, Scotts Valley, California 95067 (hereinafter "Assignee"), is desirous of acquiring the entire right, title and interest in and to the invention, the applications, and any and all Letters Patent or similar foreign or domestic legal protection;

NOW THEREFORE, for good and valuable consideration, the receipt and adequacy of which is hereby acknowledged, we transfer to Assignee, its successors and assigns, our entire right, title and interest in and to the invention, the above-identified applications, all provisional applications from which any of the above-identified applications claim priority, corresponding domestic and foreign applications, any continuation, division, renewal, or substitute for the applications, all Letters Patent, any reissue, re-examination, or similar legal protection issuing related to the Letters Patent, and all rights and benefits under any applicable treaty or convention; and we authorize the Director of the United States Patent and Trademark Office or foreign equivalent to issue the Letters Patent or similar legal protection to the Assignee.

We authorize the Assignee, its successors and assigns, to insert in this instrument the filing date(s) and serial numbers of the application when ascertained. We further authorize the Assignee, its successors and assigns, or anyone it may properly designate, to apply for Letters



Patent or similar legal protection, in its own name if desired, in any and all foreign countries and appoint Assignee the common representative in the above-identified international application and any international application for the invention.

We represent to the Assignee, its successors and assigns, that we have not and shall not execute any writing or do any act whatsoever conflicting with this Assignment. We and our executors or administrators will at any time upon request, without additional consideration, but at the expense of the Assignee, its successors and assigns, execute and deliver to Assignee or its legal representatives such additional writings and do such additional acts as the Assignee, its successors and assigns, may deem desirable to perfect its enjoyment of this grant, and render all assistance in making application for and obtaining, maintaining, and enforcing the letters Patent or similar legal protection on the invention in any and all countries, including without limitation providing testimony in any related interference litigation or proceeding.

IN TESTIMONY WHEREOF, I have hereunto set my hand this 4 day of January, 2002.

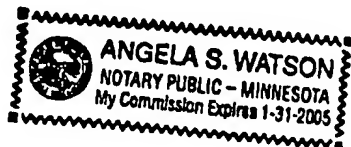
Yi-Ping Hsin

STATE OF Minnesota)  
COUNTY OF Dakota) ss:

On this 4 day of January, 2002, before me personally appeared Yi-Ping Hsin to me known to be the person described in, and who executed the foregoing instrument, and acknowledged to me that he/she executed the same for the uses and purposes therein set forth.

[SEAL]

Notary Public



IN TESTIMONY WHEREOF, I have hereunto set my hand this fourth day of January, 2002.

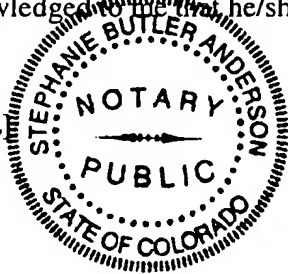
Samir Mittal

Samir Mittal

STATE OF Colorado )  
COUNTY OF Boulder )ss:

On this fourth day of January, 2002, before me personally appeared Samir Mittal to me known to be the person described in, and who executed the foregoing instrument, and acknowledged to me that he/she executed the same for the uses and purposes therein set forth.

[SEAL]



Stephanie Butler Anderson  
Notary Public

MY COMMISSION EXPIRES 2/20/2005

20043427 014002

IN TESTIMONY WHEREOF, I have hereunto set my hand this 9 day of January, 2002.

John C. Morris  
John Christopher Morris

STATE OF Minnesota )  
COUNTY OF Dakota )ss:

On this 9 day of January, 2002, before me personally appeared John Christopher Morris to me known to be the person described in, and who executed the foregoing instrument, and acknowledged to me that he/she executed the same for the uses and purposes therein set forth.



Angela S. Watson  
Notary Public